

EPA Region 5-Illinois EPA Monthly NSR Permits Call

DATE: May 15, 2013
 SUBJECT: Air Permits Call of May 14, 2013
 FROM: David Ogulei, Environmental Engineer
 ARD/APB/Air Permits Section
 TO: Files
 THRU: Genevieve Damico, Section Chief

Next call: 2:00 PM, June 11, 2013
 Call-in number: (b)(6)

The following are notes from the subject conference call.
 Representing EPA were David Ogulei and Danny Marcus.
 Representing Illinois EPA were Chris Romaine, Jason Schnepf,
 Manish Patel, Minesh Patel, Bob Smet, Kevin Smith, Kevin Hecht,
 and Shashi Shah.

The purpose of the call was to discuss active and anticipated projects, and to identify and discuss any current or anticipated issues of concern. EPA comments made during such meetings or conference calls are tentative and subject to modification upon further review of factual data.

Topics Discussed

1. National Historic Preservation Act (NHPA)

Heads-up that since EPA issued the October 2012 guidance on timely processing of PSD permits, EPA has received inquiries about EPA's procedures for undertaking NHPA reviews. The October 2012 timely processing guidance identified four statutes "that sometimes must be met before a source can begin construction and operation under a PSD permit," including the NHPA, the Coastal Zone Management Act, the Endangered Species Act and the Magnuson-Stevens Fishery Conservation and Management Act.¹ EPA has not yet

¹ Time processing guidance at 11-13.

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issued guidance on when and how NHPA reviews are to be conducted.

2. Considering EJ in Permitting - EPA Actions, Promising Practices and Regional Implementation Plans

EPA has issued two documents outlining the first steps the Agency is taking to consider environmental justice and to engage overburdened communities in the permitting process. EPA's enhanced engagement efforts are aimed at encouraging and removing barriers to the meaningful participation of overburdened communities in the permitting process. The agency's efforts only apply to EPA-issued permits. For now, these efforts do not apply to delegated states.

The first document provides direction to EPA permit writers on how to prioritize permits for enhanced community outreach. Each region has developed a regional implementation plan for enhancing outreach in the permitting process. The second document is a collection of suggested enhanced outreach practices that permit applicants might use to increase transparency and encourage meaningful engagement of overburdened communities in the permitting process.²

These documents are available at:

<http://www.epa.gov/environmentaljustice/plan-ej/permitting.html>. The direct link to the Region 5 implementation plan is <http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/permitting/2013-05-region-05-plan.pdf>.

3. Areas that are newly violating the 2008 8-hr ozone NAAQS, based on preliminary 2010-2012 design values.

- Mount Vernon, IL
- Paducah, KY-IL
- St. Louis, MO-IL

² IEPA also noted that on April 18, 2013, IEPA entered into a settlement agreement with EPA's Office of Civil Rights in which it committed to expand the scope of its EJ Public Participation Plan. The agreement resolves administrative complaint number 13R-1-R5, which was filed with EPA on May 5, 2010, by Keith Harley on behalf of South Suburban Citizens Opposed to Polluting Our Environment (SS-COPE) pursuant to Title VI of the Civil Rights Act of 1964 and EPA's implementing regulations at 40 C.F.R. Part 7.

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4. Chicago Coke Illinois Pollution Control Board (IPCB) decision

On March 29, 2010, Chicago Coke Company (Chicago Coke) appealed IEPA's determination that Chicago Coke's emission reduction credits (ERCs) are not available as emission offsets. Chicago Coke seeks to sell its ERCs to a buyer located in the same non-attainment area. On May 2, 2013, the IPCB issued an Order granting Chicago Coke's Motion for Summary Judgment, and denying IEPA and NRDC's Motions for Summary Judgment. See <http://www.ipcb.state.il.us/documents/dsweb/Get/Document-79940>. The IPCB found: 1) IEPA's five year guideline cannot be relied upon; 2) the earliest Chicago Coke could've been permanently shutdown was 2006 when the construction permit expired ("the Board cannot find that a facility with a construction permit, paying its permit fees, and holding a CAAPP permit was shutdown."); 3) while IEPA can manage emission reduction credits (ERCs), it did so improperly in this context.

The IPCB stated that it "is only deciding that the ERCs are available and will not decide how the ERCs may be used or how many ERCs are available. In this case, the Board is only reviewing IEPA's decision that the ERCs are not available, and IEPA has not made a decision on how the ERCs can be used."

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REVIEW OF PENDING PROJECTS OF INTEREST

Illinois EPA provided updates to the list of active NSR projects of interest and their status. See below for updated project status.

KEVIN SMITH

Afton Chemical (formerly Ethyl Petroleum) (Sauget, St. Clair County); ESA-no; PSD: This company proposes to revise its permit for an oil additive process to update BACT for the

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condenser. The BACT re-evaluation only affects SO₂ emissions. The condenser removes H₂S and CS₂ gases at -35-40°F before passing to a flare. The permit requires proper operation of the condenser to assure vapor liquid separation. Compliance would be determined by a mass balance with the presumption that the emissions are sent to the flare. In response to Illinois EPA's review, the company submitted additional information including changes to the process and a revised BACT analysis. The company proposed a new control process because the original proposed scrubber will not work with their process. Illinois EPA has prepared a draft permit that does not require an H₂S scrubber after the condenser, but will have a thermal oxidizer and an SO₂ scrubber. Company has reviewed the draft permit and submitted comments. Illinois EPA will verify that this project has undergone the necessary ESA review before the final permit is issued. Currently reviewing the additional information submitted by the company.

Keystone Steel and Wire (Peoria, Peoria County); ESA-no; PSD:

This company proposes to relax the SO₂ BACT emission limit in the PSD permit. The PSD permit was issued in the early 1990s with an SO₂ emission limit that the source considers too low. Company submitted additional information requested by Illinois EPA. Illinois EPA prepared a draft permit and shared it with the company. Company submitted comments on the draft permit language on August 15, 2012. Awaiting additional modeling information from the company.

ADM - Glycol Plant (Decatur, Macon County); ESA-yes(?) : ADM has submitted a PSD application for a modification to their Glycol plant. Application involves revisions to BACT limits for the cooling tower. Source has informed Illinois EPA that it intends to significantly revise its application. Awaiting additional information from the source.

BOB SMET

Wheatland Tube (Chicago, Cook County); ESA-no; NNSR: This company proposes to revise its LAER permit for mills 3 and 4 by combining the allowable emissions for each into one total amount of emissions from both. The company wants to revise the LAER limitation for Mill 4, expressed in lb VOM/gal minus water and

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exempt compounds to conform to that for Mill 3, which was in lb VOM/gal only. Illinois EPA is at an impasse on resolving this request. No change.

Garden Prairie Energy c/o Power Venture Group (Boone County);

ESA-no: This company is proposing a 101 MW natural gas-fired internal combustion engine peaker power plant. The proposed plant would also support wind power projects in northern Illinois by serving as an alternative source of power during low-wind periods. The plant will have 12 engines, each with a SCR and a catalytic oxidizer. Illinois EPA is reviewing the additional information and revised modeling submitted by the company and working on a draft permit. The draft permit that went out for public comment avoided PSD, including for GHG. Public comment period on the draft permit closed April 13, 2012. Only EPA submitted comments. EPA's concerns were forwarded to the company soon after receipt. Source has requested a CO₂ synthetic minor limit so as to keep GHG emissions just below the 100,000 tpy major source threshold. (Note: Original application came in more than 3 years ago.)

Hoosier Energy (Davis Junction, Ogle County); ESA=yes; PSD: PSD

application for a landfill gas-to-energy facility at the existing Veolia Orchard Hills Landfill. The facility will have seven engine-generators and a total capacity of 19.1 MW. The project is subject to PSD for NO_x, CO, PM₁₀, PM_{2.5}, and VOM/NMOC. Although the project will emit significant amounts of GHGs (due to a projected increase in the amount of landfill gas (LFG) generated by the landfill), the project will not be subject to PSD for GHGs. This is because EPA has deferred, for three years, the applicability of PSD requirements to biogenic CO₂ emissions, including CO₂ emissions from the combustion of LFG. Also, the application indicates that SO₂ emissions will be limited to 39.9 tpy, which is below the SO₂ significance threshold of 40 tpy. The demonstration of BACT in the application shows that engine-generators are BACT technology for the proposed facility and that the emission rates achieved by the engines for pollutants subject to PSD should be considered BACT. The air quality analysis predicted exceedances of the 24-hour PM_{2.5} NAAQS and the 1-hour NO₂ NAAQS. However, Hoosier Energy demonstrated that the project "would not have a significant impact on all exceedances and would therefore not be a cause or contribute to these modeled exceedances." Comment

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period on the draft permit ended on August 11, 2012. Comments were only received from EPA and the company itself. The company has requested a relaxation of the VOM emission limits. Illinois EPA is in the process of responding to comments, and plans to re-public notice the draft permit soon.

Ameren Meredosia - Futuregen Project (Meredosia, Morgan County);

ESA- no: As a demonstration project at their Meredosia Power Plant, Ameren proposes to install a 170 MW oxy-combustion coal-fueled boiler and utilize CCS as a demonstration project with DOE funding.³ The new 170 MW oxy-combustion boiler will replace an existing oil-fired boiler. The company will also be shutting down existing boilers and will be completely netting out of PSD review. Ameren has now stated that the project has been delayed and will submit a revised application sometime in early June 2013. Illinois EPA plans to hold a public hearing on the draft permit, probably in late spring or early summer 2013, with a final permit expected by November 2013. Potential challenges include establishment of acceptable and reliable emissions monitoring methods for the source.

Annawan Energy c/o Power Venture Group (Henry County); ESA-no:

This company is proposing a 101 MW natural gas-fired internal combustion engine peaker power plant that is similar to the proposed Garden Prairie Energy project in Boone County. The proposed plant would support wind power projects in northwest Illinois by serving as an alternative source of power during low-wind periods. The plant will have 12 engines, each with a SCR and a catalytic oxidizer. Not a PSD major project due to the proposed control equipment. Follow up e-mails were sent, and recent response from the consultant indicates that a revised application will be submitted soon. Permit will be similar to Garden Prairie's permit. No change in status. Little feedback regarding the future status of the project has been provided by the applicant.

Christian County Generation (a.k.a. Taylorville Energy Center, Tenaska): The source is requesting a PSD permit to construct a plant to produce substitute natural gas (SNG) and generate electricity, including a gasification block with two coal

³ The applicant is downsizing from a 200 MW to a 170 MW boiler.

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gasifiers and a power block with two turbines. The \$3.5 billion Taylorville Energy Center will use Illinois basin coal to power the plant, capture the carbon dioxide (CO₂) and either sequester it underground or sell it for use in enhanced oil recovery (EOR). Illinois EPA originally issued a PSD permit for this source on 4/30/12 but subsequently withdrew the permit on July 6, 2012 after NRDC and the Sierra Club appealed the permit to the EAB. The 4/30/12 permit included limits on CO₂ emissions from individual turbines when operating in a combined cycle mode.

NRDC and Sierra Club alleged the following in their June 19, 2012 amended petition filed with the EAB:

1. Illinois EPA erred in its BACT determination for CO₂ emissions from the acid gas removal vent
2. Illinois EPA's failure to consider low sulfur coal in its BACT analysis violated the Supremacy Clause and Dormant Commerce Clause of the U.S. Constitution.
3. Illinois EPA erred in its BACT determination for "fugitive" emissions by applying synthetic organic chemical manufacturing industry emissions factors.
4. The applicant failed to conduct single-source air dispersion modeling when demonstrating compliance with the 8-hour ozone NAAQS.
5. In light of a post-Permit announcement by the applicant's parent company that it would construct the facility in two phases - with the natural combined-cycle "power block" built first, followed by construction of the coal gasification unit (and associated carbon capture equipment) at an indefinite time in the future, when market conditions improve - the Permit should be remanded to narrow the timeframe in which construction of all phases of the project is commenced.

Illinois EPA is currently reconsidering the permitting decision including, but not limited to, elements of the BACT analysis. Illinois EPA plans to consult with EPA and the Permittee during the reconsideration process. Any reissuance of the permit may potentially be subject to additional public comment and hearing. On hold indefinitely.

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Universal Cement (Chicago, Cook County); ESA-no; PSD: Universal Cement has requested an extension to their PSD permit for a cement manufacturing plant on the south side of Chicago. ~~No changes to the permit (e.g., BACT) are expected. Will go out for public notice soon.~~ The public comment period on a draft 18-month extension has now closed. ~~No changes to the permit (e.g., BACT) are expected.~~ have been proposed. Comments were received from the Sierra Club on 5 key areas.

During the public comment period, the Sierra Club and several other citizen groups, submitted joint comments opposing Illinois EPA's proposed extension of the Universal Cement PSD permit. Illinois EPA did not receive any other comments from the public. The citizen groups allege that:

- 1) Universal Cement has not shown that if an extension is granted, it will initiate construction within the extension period or that construction will be continuous;
- 2) the applicant failed to submit a sufficient new BACT analysis;
- 3) Illinois EPA has not conducted a new air quality impacts analysis;
- 4) Illinois EPA can only extend the permit by 12 months; and
- 5) Illinois EPA is not authorized to extend an expired permit.

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A public hearing was not requested.

Abengoa Bioenergy (Madison, Madison County); ESA=yes; PSD. Proposed biobutanol production plant to be co-located with Abengoa's existing fuel ethanol plant in Madison. Will further process fuel ethanol into butanol, a common industrial and commercial solvent. Project will be subject to PSD as a major modification for emissions of **GHGs only**. The GHG emissions would mainly be from the natural gas-fired heaters that would supply steam to the new plant. Application has been deemed to be incomplete.

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JASON SCHNEPP

U.S. Steel (Granite City, Madison County); ESA=yes; PSD: This is a clean-up of the "Production Increase" PSD permit originally

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issued January 1996. The primary reason for the revision is to correct the SO₂ emission rate for combustion of blast furnace gas in combustion equipment at the source. The PSD permit limits SO₂ emissions at approximately 6 lb/mmscf but the actual rate has been closer to 16 lb/mmscf. A preliminary draft was sent to the company for review on March 19, 2010. Illinois EPA sent letter requesting comments on the draft. Comments received 8/12/2011. Illinois EPA is reviewing and responding to comments. On hold until other related permit actions at the source are completed.

Gateway Energy & Coke Company (Granite City, Madison County);

ESA-no, PSD: Gateway requested a revised permit to authorize a maintenance period for the activated carbon injection system on the main stack. This system is designed to reduce mercury emissions from the main stack. The maintenance period would prevent extended outages of the control system. The authorization would be available for approximately one year at which time Gateway will install a redundant control system. Gateway also requested changes to the permitted lead emissions for the main stack and individual waste heat stacks. Based on emission testing for lead at the plant, the requested changes would result in a lower permitted emission rate for the main stack and a higher permitted emission rate for the individual waste heat stacks. The overall change in lead emissions at the plant will be an increase from 0.2 tons per year to 0.28 tons per year. Because the proposed project emissions for lead are still less than 0.6 tons per year, the PSD significant emissions increase threshold for lead, the project would not be considered a major modification for lead emissions. A preliminary draft has been sent to the company for review. Lead modeling is being performed by the Gateway. Illinois EPA will verify that this project has undergone the necessary ESA review before the final permit is issued. On hold - awaiting resolution of pending enforcement actions at the source.

Saint-Gobain Containers, Inc. (Dolton, Cook County); ESA-no;

synthetic minor: Saint-Gobain has applied for a construction permit for modifications and installation of controls for its three furnaces at its glass container manufacturing plant in Dolton. Installation of controls is required under a Global Consent Decree. Saint-Gobain has selected a Catalyst Embedded Ceramic Filter System with Reagent Injection in lieu of a dry scrubber/ESP/SCR. This alternative control system was approved

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for use by EPA. The project is expected to "net out" of PSD review. ~~The company is reviewing a preliminary~~A draft permit is expected to be issued for public comment within a few days.

MINESH PATEL

Aventine Renewable Energy Pekin III Project (Pekin, Tazewell County); ESA-yes: Submitted an application for expansion of 108 million gallons per year dry mill ethanol plant. The proposed ethanol plant would be a standalone facility (would not be utilizing any of the existing wet mill or dry mill operations). The proposed facility would be a major modification subject to PSD regulations for VOM, CO, NOx and PM. The company may withdraw its permit application. Company is not responding to information requests anymore. On hold, no change.

Mississippi Lime Company Lime Manufacturing Plant (Prairie du Rocher, Randolph County); ESA-yes; PSD: PSD permit was issued December 30, 2010 for a lime manufacturing plant, including two rotary lime kilns with pre-heaters; limestone crushing, storage and handling; fuel storage and handling; lime hydration; lime storage, handling and loadout; and other ancillary operations. Shortly after issuance, the Sierra Club appealed the permit raising concerns with NAAQS compliance, BACT safety margins and fuels (natural gas vs. coal). On August 9, 2011, the EAB remanded the PSD to Illinois EPA finding that:

- (1) Illinois EPA failed to provide sufficient justification for determining BACT for kiln startup and shutdown emissions. Illinois EPA eliminated natural gas as a control option because of the proposed plant site's distance from the existing natural gas pipeline. Illinois EPA's determination that natural gas was "not commercially feasible" lacks support and does not consider the average and incremental cost effectiveness of natural gas.
- (2) Illinois EPA failed to provide sufficient justification for the permit's BACT emissions limitations for SO₂, NOx, and PM.

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- (a) Illinois EPA failed to adequately support its determination that a 3.5% sulfur content design fuel, consisting of both coal and petroleum coke, was BACT for SO₂, particularly when Illinois EPA had already concluded that among the technically feasible coals, coal with 3.2% sulfur content was cost effective. In declining to consider the performance test data at existing kilns that Sierra Club had identified, Illinois EPA fundamentally misunderstood that its role as permit issuer requires the agency to investigate and examine recent regulatory determinations.
- (b) Illinois EPA's administrative record does not support Illinois EPA's assertions that compliance margins were necessary for the NO_x, filterable PM, and PM₁₀ BACT limits due to variations in the effectiveness of the chosen control measures. Illinois EPA explained neither how it derived the numerical values for the margins nor the technical or scientific bases for the margins. The BACT analyses for these pollutants also do not sufficiently assess data from other facilities that might support the proposed compliance margin. Illinois EPA was obligated to conduct a more thorough evaluation of comparable facilities, including those that Sierra Club cited.
- (3) Illinois EPA failed to provide sufficient justification for determining that emissions from the proposed source will not cause or contribute to a violation of the one hour SO₂ NAAQS. Although it was not improper for Illinois EPA to use a SIL in the culpability analysis for the one-hour SO₂ NAAQS, it is unclear from the administrative record what SIL value Illinois EPA used in the culpability analysis. EPA guidance provides an interim one-hour SO₂ SIL of 7.85 µg/m³, which is supported in the administrative record as a de minimis concentration, but Illinois EPA did not explain whether or how this SIL was applied. Illinois EPA further failed to identify whether two other values that appear in the administrative record, 7.9 µg/m³ and 10 µg/m³, were applied as the one-hour SO₂ SIL in the culpability analysis. Finally, to the extent that Illinois EPA applied either 7.9 µg/m³ or 10 µg/m³ as the one-hour SO₂ SIL, Illinois EPA did not

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demonstrate that those values represent de minimis concentrations.

- (4) Illinois EPA failed to provide sufficient justification for not establishing SO₂ and NO_x emissions limits based on one-hour averages to protect the one-hour SO₂ and the one-hour NO₂ NAAQS. Illinois EPA's explanations for not including emission limitations for SO₂ and NO_x based on one-hour averages - that the results of other state agencies' models have "overstated impacts to such a degree that they cannot be considered credible" and that the proposed control technology at the proposed plant cannot catastrophically fail - are unsupported and anecdotal at best. In light of the EPA directive to include emission limitations based on one-hour averages, Illinois EPA's unsupported reasoning for not doing so is inadequate.

Company has submitted supplemental information addressing the remand issues and new requirements that became applicable since the remand. Still need GHG BACT analysis. No change; review continues including contacting other states for information on SO₂ BACT.

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Koppers Industries, Inc. (Chicago, Cook County); ESA-no; Netting Project; Koppers proposes to revise its construction permit for a New Tube Heater for Tar Distillation System #2, which was issued on June 14 2012. The permit allowed installation of a new heater which would replace the existing heater for the system. The new heater would use natural gas and process gas from the distillation process as its fuel. The original construction permit for the new heater was a netting project for SO₂ emissions. The project resulted in a net increase of 28.7 tons per year for SO₂ emissions. Recent waste gas analysis at the plant shows higher sulfur content in the waste gas than previously estimated. (The previous estimate was based on a 1985 analysis.) Using the more recent test data, Koppers has now proposed to update its previously issued permit. The revised permit would result in higher SO₂ emissions for the Tar Distillation System #2 than currently permitted. However, the net increase in SO₂ emissions associated with the project is expected to be less than significant, i.e., less than 40 tons per year. A request for additional information has been sent to the company, including a request for explanation of proposed CO

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emissions and a copy of a formal emissions test report for the
 Tar Distillation System #2.

University of Chicago; (Chicago, Cook County); ESA-no: The
University of Chicago has requested a revision to its
construction permit so as to allow for continued operation of an
existing natural gas and oil-fired boiler (Boiler 4), at its
West Campus, 1717 West Taylor Street in Chicago. UIC has
applied for the revised permit to enable it to reliably supply
steam to the various hospital and medical facilities at its West
Campus.

The construction permit addressed the construction of certain
new equipment to supply heat and electricity to facilities at
UIC's West Campus. In conjunction with the project, UIC was
required to cease operation of Boiler 4. UIC did cease operation
of Boiler 4. However, UIC has now requested that it be able to
resume use of Boiler 4 on a long-term basis. UIC has determined
that this is needed to be able to reliably meet the steam
demands of the West Campus, which includes the UIC Hospital and
various other medical facilities.

The public comment period on the draft permit closes May 19,
2013.

MANISH PATEL

Corn Products ARGO, (Bedford Park, Cook County); ESA-no: This
company proposes to install a fourth starch dryer "the D starch
Dryer", associated dry starch storage, packaging and handling
equipment, and increases in the operation and emissions of
certain existing pieces of equipment to handle dry starch
produced in the new dryer. The project will not be major for
PM, PM₁₀, and PM_{2.5}, netting out of PSD or MSSCAM review.
Illinois EPA sent the draft permit to company for their
review/comments in May 2009. Project was put on hold by the
company in June 2009. No change in status since then.

Eastern Illinois University (EIU); (Charleston, Coles County);
ESA-no: EIU has applied for a revised construction permit for
their new biomass fired Renewable Energy Center. The project

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netted out of PSD for NOx emissions with the shutdown of the existing coal fired steam plant. The requested revisions would resolve various issues including actual boiler heat input capacities and startup/shutdown procedures. With respect to NOx, the short-term NOx emission limits would be increased but the annual NOx emissions limits would be lowered slightly. A public comment period will be held. Application currently under review, awaiting additional information from EIU.

Argonne National Laboratory (ANL); (Argonne, DuPage County);

ESA-no: ANL has proposed a combined heat and power (CHP) project. The project would involve a natural gas-fired combustion turbine-generator, duct burner and heat recovery steam generator (HRSG) to supply steam and electricity (about 6 MWe) to the facility. The project involves netting for NOx emissions with shutdown of one of the existing gas-fired boilers. Emissions of other pollutants will not be significant. The application is under review.

KUNJ PATEL

No projects to report.

KEVIN HECHT

Washington Mills (formerly Exelon) (Hennepin, Putnam County);

ESA-no: This company proposes a PSD project for a 6th Silicon Carbide Furnace Group. This project will be similar to the 5th Silicon Carbide Furnace Group, Construction Permit 07070005, issued March 19, 2009. No change in status.

Rock Island Arsenal (Rock Island, Rock Island County); ESA-no:

The source proposes to install two natural gas fired boilers in the central heating plant. The purpose of the project is to reduce the source's emissions of HAPs to minor source status for purposes of the Boiler NESHAP. The new natural gas fired boilers would replace two of the four coal fired boilers at the source, allowing Rock Island Arsenal to accept limits on the use

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of coal and emissions of the remaining two coal fired boilers.
Illinois EPA sent a draft permit to the company for review.
Waived to January 2014.

SHASHI SHAH

ADM - Ethyl Lactate Process (Decatur, Macon County); ESA-yes:

ADM has submitted a construction permit application to increase the capacity of the ethyl lactate process at its Decatur complex. Ethyl lactate is a solvent with uses in pharmaceuticals, food additives and fragrances, as well as in degreasing. The proposed project would include changes to process piping, existing refining columns, and existing storage tanks in the ethyl lactate process to enable increased production.

The proposed project would be subject to PSD review because it would be accompanied by significant increases in emissions of nitrogen oxides (NOx), sulfur dioxide (SO₂) and greenhouse gases (GHG). Most of the increases in emissions of NOx, SO₂ and GHG would occur at the existing coal-fired boilers at the source. These boilers will need to "operate more" to make the additional steam that would be used by the expanded ethyl lactate process expansion. However, the project would not trigger BACT for these boilers for any pollutants because the boilers would not undergo any physical or operational modifications. There will also be an increase in GHG emissions due to increased production by the existing lactic acid process, where carbon dioxide is a side product of fermentation. The application also indicates that BACT would not be triggered for the existing lactic acid process because it would not undergo any modification. Accordingly, ADM prepared this application based on the project only being subject to the air quality analysis and administrative requirements of the PSD rules. ESA review has been completed (EPA made a no-effect determination). No change in status.

ADM - Lysine Process (Decatur, Macon County); ESA-yes: ADM has submitted a construction permit application to increase the capacity of the lysine process at its Decatur complex. Lysine is an essential amino acid produced by ADM as a supplement for animal feeds. The proposed project would include two new spray

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dryers and physical modifications to existing fermenters and ancillary equipment to enable increased production of lysine.

The proposed project would be subject to PSD review because it would be accompanied by significant increases in emissions of volatile organic compounds (VOC), nitrogen oxides (NOx), sulfur dioxide (SO₂) and greenhouse gases (GHG). The increases in emissions of NOx, SO₂ and GHG would occur at the existing coal-fired boilers at the source. These boilers will need to "operate more" to make the additional steam that would be used by the expanded lysine process. However, the project would not trigger BACT for these boilers for any pollutants because the boilers would not undergo any physical or operational modifications. There will also be an increase in VOC and GHG emissions due to increased production by the lysine process, which would be physically modified and where carbon dioxide (CO₂) is a side product of fermentation. The projected increases in VOC and CO₂ emissions from the lysine process are about 75 and 160,000 tons per year, respectively.

The application suggests that BACT for GHG and VOC emissions from the lysine process would be no additional control. The only potentially applicable control option for CO₂ would entail capture and sequestration of CO₂. This technology is not demonstrated for aerobic fermentation processes, like lysine production, where the fermentation exhaust averages only about 5% CO₂ by volume. In addition, ADM states that the lysine fermentation process cannot be made more efficient. The rate of CO₂ release is a consequence of the biological conversion of dextrose to lysine, which is metabolically constrained. The application also indicates that use of add-on control for the VOC emissions from lysine fermentation would not be cost-effective, with a cost of over \$50,000 per ton of VOC controlled. This is because of the low concentration of VOC in the exhaust from the fermentation process, at most only about 15 ppm. Illinois EPA issued the draft permit for public comment in February. Public comment period ended March 23, 2012. Only Sierra Club commented on the draft permit. Sierra Club alleges that:

- 1) The permit fails to require BACT, or undertake an analysis of increment, for PM_{2.5}, despite the project's NOx and SO₂ emission increase above the "significant emission rate" for PM_{2.5}.

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- 2) The permit fails to establish and require compliance with BACT emission limits for the coal-fired boilers, which are undergoing a change in the method of operation as a result of the proposed project.
- 3) The permit record fails to establish that the plant will not cause or contribute to a violation of the 75 ppb ambient air quality standard for 8-hour ozone.
- 4) The permit fails to establish 1-hour limits on NO_x and SO₂ that were assumed as the maximum hourly emission rates in Illinois EPA's air quality impact analysis and, therefore, fails to ensure protection of the NAAQS.

Illinois EPA requested ADM to submit a project aggregation analysis and to respond to Sierra Club's comments. Illinois EPA has made a decision to review this specific project as a separate project and to reevaluate this decision as additional applications are submitted and reviewed.

Finalization of the permit has been delayed as a result of EPA's recently issued draft guidance on PM_{2.5} modeling. Under the March 4 draft PM_{2.5} modeling guidance, Illinois EPA needs to assess secondary impacts of precursor emissions of NO_x and/or SO₂ if NO_x and/or SO₂ emissions are significant - even if direct PM_{2.5} emissions are not significant.

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FINAL PERMITS ISSUED SINCE APRIL 10, 2013

None.

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WITHDRAWN/ABANDONED APPLICATIONS

The following applications were withdrawn or considered by Illinois EPA to be abandoned by applicants over the last 6 months:

ADM - Threonine Process (Decatur, Macon County); ESA-yes: ADM has withdrawn their construction permit application to increase the capacity of the threonine process at its Decatur complex. Threonine is an essential amino acid produced by ADM as a nutritional supplement for animal feeds. The project would have included new drop tank, dryer system, conveying system, changes to fermenter, and improvements to tower system in the threonine process to enable increase in production.

The application indicated that the project would have been subject to PSD review for sulfur dioxide (SO₂) and greenhouse gases (GHG). Most of the increases in emissions of SO₂ and GHG would occur at the existing coal-fired boilers at the source. These boilers would need to "operate more" to make the additional steam that would be used by the expanded threonine process. However, the project would not trigger BACT for these boilers for any pollutants because the boilers would not undergo any physical or operational modifications.

Baldwin Expansion, LLC (Dynegy Midwest, formerly Illinois Power) (Baldwin, Randolph County); ESA-no: \$1.5 billion, two 750 MW coal-fired boilers. 4 - 5 million tons of coal a year by rail/barge. Adding 1500 MW to current 2000 MW from 3 existing boilers at Baldwin Power Plant, approx. 50 miles southeast of St. Louis.

Two new boilers to fire pulverized coal, 750 MW nominal, each (total increase in plant capacity 1500 MW). Selective catalytic reduction (SCR), SO₂ scrubbers, and electrostatic precipitators

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proposed, exhausted through single 590 foot stack (two separate flues).

Potential emissions (as provided in the application): 16,500 tons of SO₂, 7,450 tons NO_x, 2,250 tons PM total (filterable and condensable), 330 tons VOM and 0.1 tons of mercury. These limits reflect proposed emission limits of 0.25. 0.12 and 0.034 lb/mmBtu for SO₂, NO_x and PM (total), respectively. After three years, proposed emissions for NO_x would drop to 5,300 tons, based on compliance with NO_x emission rate of 0.08 lb/mmBtu. Limits may be lowered due to Illinois EPA evaluation of BACT/LAER. The application does include an air quality analysis. NO_x and CO impacts not significant. PM and SO₂ modeling shows compliance with NAAQS with a fair margin of compliance.

Dynegy does plan to submit further modeling to address impacts on the nearby Mingo Wildlife refuge, a Class I Area under PSD. This modeling is expected to show that even with the proposed expansion, emissions of SO₂ and NO_x from Baldwin would be significantly lower than the plant's actual emissions in recent years, i.e., 1996 through 2000.

Illinois EPA requested additional information from the source but the source has been unresponsive for several years. Project believed to be dead.

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**PSD PERMITS UNDER REVIEW BY THE ENVIRONMENTAL APPEALS
BOARD (EAB)**

The following are PSD permits issued by Illinois EPA that are
currently before the EAB for review:

None

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**RECENT EAB DECISIONS ON PSD PERMITS ISSUED BY ILLINOIS
EPA**

The following decisions were issued by the EAB over the last 6
months:

None